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APPLICATION NO.: 10/666,770
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Page 2 of 13**AMENDMENTS TO THE CLAIMS**

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

- 1 1. (Currently amended) A Boundary-Scan test receiver for capturing
2 signals during board interconnect testing, comprising:
 - 3 a) a comparator comprising a first input to receive said signals during board
4 interconnect testing, and a second input to receive a reference voltage, and an output;
5 and
6 b) a programmable hysteresis circuit coupled to at least one of said comparator
7 inputs and the output, wherein a portion of the programmable hysteresis circuit
8 coupled to the output is configured to receive multiple input control signals responsive
9 to a condition on the board under test.
- 1 2. (Original) The Boundary-Scan test receiver of claim 1, wherein the
2 programmable hysteresis circuit comprises a programmable hysteresis voltage
3 generator.
- 1 3. (Original) The Boundary-Scan test receiver of claim 2, wherein the
2 programmable hysteresis voltage generator comprises a current digital-to-analog
3 converter to sink current from one of the said first and second inputs.
- 1 4. (Original) The Boundary-Scan test receiver of claim 1, wherein the
2 programmable hysteresis circuit comprises a programmable hysteresis delay circuit.
- 1 5. (Original) The Boundary-Scan test receiver of claim 4, wherein the
2 programmable hysteresis circuit delay circuit comprises a digital-to-analog converter
3 driving a plurality of variable capacitances, the capacitances being coupled at various
4 points along a chain of buffer elements.

1 6. (Original) The Boundary-Scan test receiver of claim 4, wherein the
2 programmable hysteresis circuit delay circuit comprises a digital-to-analog converter
3 driving a chain of switchable delay elements.

1 7. (Original) The Boundary-Scan test receiver of claim 1, wherein
2 programmable inputs of the hysteresis circuit are linked in a scan chain.

1 8. (Currently amended) A Boundary-Scan test receiver for capturing
2 signals during board interconnect testing, comprising:

3 a) a plurality of comparators, each comprising a first input to receive said
4 signals during board interconnect testing, and a second input to receive a reference
5 voltage and an output; and

6 b) a programmable hysteresis circuit coupled to at least one input and the
7 output of each comparator, wherein a portion of the programmable hysteresis circuit
8 coupled to the output is configured to receive multiple input control signals responsive
9 to a condition on the board under test.

1 9. (Original) The Boundary-Scan test receiver of claim 8, wherein the
2 programmable hysteresis circuit comprises a programmable hysteresis voltage
3 generator; the programmable hysteresis voltage generator comprising:

4 a) a voltage divider, coupled between an input of each comparator;

5 b) a current digital-to-analog converter driving the voltage divider; and

6 c) a current mirror, coupled to a midpoint of the voltage divider to mirror a
7 reference voltage at said midpoint.

1 10. (Original) The Boundary-Scan test receiver of claim 8, wherein the
2 programmable hysteresis circuit comprises a programmable hysteresis voltage
3 generator; the programmable hysteresis voltage generator comprising:

4 a) a voltage divider, coupled between an input of each comparator;

5 b) a current digital-to-analog converter driving the voltage divider; and

6 c) a current mirror, coupled to a midpoint of the voltage divider to mirror a
7 common mode voltage of said signals at said midpoint.

1 11. (Currently amended) A Boundary-Scan test method, comprising:
2 a) determining at least one operating condition of a board under test;
3 b) in response to said ~~determined at least one operating conditions~~ condition,
4 programming hysteresis circuits of Boundary-Scan test receivers in the board under
5 test, wherein programming comprises the application of at least one of a data input
6 signal, a first control signal that determines an active path through the programmable
7 hysteresis circuit, a second control signal that directs operation of a data capture
8 device, and a third control signal that directs operation of an update device; and
9 c) executing a Boundary-Scan test.

1 12. (Original) The BoundarScan test method of claim 11, wherein
2 determining the at least one operating condition comprises determining a signaling
3 level of a component of the board under test.

1 13. (Original) The Boundary-Scan test method of claim 11, wherein
2 determining the at least one operating condition comprises determining a noise level
3 associated with signal paths of the board under test.

1 14. (Original) The Boundary-Scan test method of claim 13, further
2 comprising, prior to determining the at least one operating condition:
3 a) programming hysteresis circuits of the Boundary-Scan test receivers with
4 default values; and
5 b) executing a Boundary-Scan test; wherein determining the noise level
6 associated with signal paths of the board under test comprises evaluating results of the
7 Boundary-Scan test ran with the default values.

1 15. (Original) The Boundary-Scan test method of claim 11, further
2 comprising, prior to determining the at least one operating condition:

3 a) programming hysteresis circuits of the Boundary-Scan test receivers with
4 default values; and

5 b) executing a Boundary-Scan test; wherein determining the at least one
6 operating condition of the board under test comprises evaluating results of the
7 Boundary-Scan test ran with the default values.

1 16. (Original) The Boundary-Scan test method of claim 11, wherein
2 programming the hysteresis circuits comprises programming a hysteresis voltage.

1 17. (Original) The Boundary-Scan test method of claim 11, wherein
2 programming the hysteresis circuits comprises programming a hysteresis delay.

1 18. (Original) The Boundary-Scan test method of claim 11, wherein
2 the hysteresis circuits of a component of a board under test are programmed via bits
3 shifted through a scan chain.

1 19. (Original) The Boundary-Scan test method of claim 11, wherein
2 the hysteresis circuits of a component of a board under test are programmed in a
3 plurality of sets.

1 20. (New) The Boundary-Scan test receiver of claim 1, wherein the
2 programmable hysteresis circuit receives a data input signal, a first control signal that
3 determines an active path through the programmable hysteresis circuit, a second
4 control signal that directs operation of a data capture device, and a third control signal
5 that directs operation of an update device.